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Statement of
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Before the
Subcommittee on Energy Conservation and Power
House Committee on Energy and Commerce
on
[Proposed Helium Legislation]

Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to present our views as you consider H.R. 3877, a bill which would repeal the Helium Act and amend the Energy Policy and Conservation Act to provide for a number of helium conservation initiatives. As you know, we have followed the helium conservation question closely over the last couple of years. Our report to the Congress entitled "Unique Helium Resources Are Wasting: A New Conservation Policy Is Needed," was issued on March 7, 1979. In that report we recommended redefining the Nation's helium conservation program to take cognizance of the changing needs for helium and to establish the objective of conserving helium resources to meet national as well as Federal agency requirements. We testified before this Subcommittee in March 1979 and have commented on previous helium legislation on a number of occasions.

Our recent June 15, 1981, letter report to the Department of the Interior, "Continuing Need for a National Helium Conservation Policy" (EMD-81-91), updated our 1979 report and reaffirmed its basic conclusions and recommendations.

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The initial part of my testimony focuses briefly on the present helium conservation situation as described in our most recent report and the immediate steps we believe necessary to ensure adequate future supplies. Afterward I will present our views on the subject bill and how it relates to the positions taken in our reports.

BACKGROUND--PRESENT HELIUM
CONSERVATION PROGRAM INADEQUATE

Helium is the lightest of all gases except hydrogen, is inert, and liquifies at the lowest temperature of any gas. These and other unique properties make helium essential for many industrial uses and developing technologies. For example, resistance to radioactivity and high thermal conductivity make helium useful as a heat transfer medium in nuclear power plants.

The fastest growing uses for helium are in cryogenics, the study of how matter and energy react to temperatures near absolute zero. Presently, several energy-related technologies, such as superconducting transmission lines, nuclear fusion reactors, and magnetic storage devices are being developed that could require large amounts of helium in the future.

Helium is found only in the atmosphere and in underground gas deposits. Relatively few gas fields have significant helium concentrations. Recovery of helium from the atmosphere would require large amounts of energy and cost from \$2000 to \$6000 per thousand cubic feet. Recovery from natural gas is relatively cheap--\$13 or less per thousand cubic feet.

Each year about 13 billion cubic feet of helium escape into the atmosphere as domestic natural gas is produced for fuel and

other purposes. This lost opportunity for relatively inexpensive recovery of helium may not be of immediate concern as long as the domestic natural gas supply lasts and the demand for helium does not rise sharply. But these are both uncertainties. Long-term natural gas supply projections are only estimates at best; but experts expect supply problems in the future. Helium demand is not entirely predictable, either. But the best guess is that conventional helium demand will rise steadily through the year 2000, and may rise dramatically thereafter, if presently envisioned energy-related technologies are implemented. These technologies could require up to 5 billion cubic feet of helium per year by 2030. The possibilities also exist that presently envisioned helium dependent technologies may not prove viable, or that other helium dependent technologies may be developed.

The Government's present helium conservation program has not dealt with the possibility of long-term supply inadequacy. It is limited to supplying Federal agency needs and is suffering financial difficulties. The 1960 Helium Act authorizes the Secretary of the Interior to acquire lands, implement helium purchase contracts, and construct facilities for the production, storage, and sale of helium. It also requires Federal agencies to purchase their major helium requirements from the Secretary to the extent supplies are readily available.

In 1961 as part of the program, the Bureau of Mines entered into 22-year helium purchase contracts with four private pro-

ducers. Under the contracts, the companies financed, constructed, and operated five new helium extracting plants. This setup has conserved all private helium production purchased by the Government. Federal agency needs have been met by production from two additional extraction plants built and operated by the Bureau of Mines.

The Bureau originally estimated that the program would support itself through helium sales. Because of the decline of the Federal space program, a large helium purchaser, and the sales of private helium producers, the Federal program could not support itself; and in 1973, the four helium purchase contracts were effectively terminated. By this time, because of accruing interest, the Federal helium fund debt had grown into the hundreds of millions of dollars. In acting to terminate, the Department of the Interior determined that available and expected supplies of helium were sufficient to provide for essential Government activities. Subsequently, the helium suppliers pursued lengthy damage suits against the Government for breach of contract.

As of 1979, when our report was issued, the Federal helium conservation program was virtually standing still. Little Federal conservation was taking place. Legal and financial problems remained and a mandate to conserve for national needs was lacking. Long-term investment considerations and other disincentives kept private conservation to a minimum also. Further, the Hugoton Gasfield on which all Federal and private extraction plants are located was not expected to be productive past the turn of the century.

PRESENT SITUATION--DEPLETION
CONTINUES, AND NEED FOR NEW
FEDERAL CONSERVATION POLICY GROWS

Since 1979 the situation has not improved much. Helium depletion continues as natural gas is produced. The largest private helium extraction plant in the country is still not operating; and very soon only one Federal plant will extract the gas. Furthermore, minimal Government and private conservation efforts have taken place. They have barely added to the existing helium stockpile since 1979.

The prospects for future conservation have been aided by the settlement of long-running litigation that has constantly hampered past conservation efforts. Two of the four breach of contract damage suits against the Government have been settled--at a cost of about \$50 million. Prospects are good that the other suits will be settled in the relatively near future. Also, the helium value litigation which also impeded conservation seems to be well on the road to settlement.

A more urgent consideration to future conservation, however, is the outcome of private exploratory drilling programs underway in the Federally leased Tip Top Gasfield located in Wyoming. Developers are preparing for a 1984 or 1985 production startup at this field. Of the Nation's total nondepleting helium reserves of 88 billion cubic feet, 45 billion cubic feet are estimated to be in Tip Top. In fact, the Bureau of Mines is reasonably optimistic that much more natural gas and thus more helium is in Tip Top than is currently listed as reserves. Until 1978, Tip Top was expected to lie dormant until the year 2000 or later. But the prospects of

rising gas prices altered the plans of its principal developer, the Mobil Oil Corporation.

GAO'S RECOMMENDATIONS

Our 1979 report made clear the position which we still hold. Until the helium litigation and financial problems of the Federal helium program are resolved, and until the Government takes responsibility for total national and not just Federal agency needs, helium resources will continue to be lost. Presently many of the expected future large-scale users of helium, for example nuclear fusion facilities, are envisioned to be the responsibility of the private sector. However, the current program's mandate does not warrant conservation efforts to meet these needs.

GAO, therefore, has consistently recommended that a new conservation policy establishing responsibility for national needs be enacted. Further, legislation enacting such policy should specifically ensure the conservation of Tip Top helium because of its large helium resources and its impending production. The legislation should also enact identified steps to provide encouragement for conservation by the private sector. Further, we recommend that additional measures, such as a new purchase program be implemented only as continuing analysis shows that these initial steps are insufficient.

H.R. 3877

H.R. 3877, if enacted, would repeal the existing Helium Act and become the Helium-Energy Act of 1981. Under the law, the Secretary of Energy could buy all helium offered to him for sale at \$1.00 per thousand cubic feet for storage in a national Helium

Reserve. Repurchase rights would remain with the gas producer. The Secretary would be responsible for managing and maintaining helium storage and related facilities in order to meet the objectives of the act.

We support the Subcommittee's initiative toward the passage of legislation which would encourage helium conservation. We should emphasize initially, however, that we believe that any new helium policy legislation should contain specific language establishing Federal responsibility for meeting national helium needs.

For this same reason, we would prefer to see the primary responsibility for Federal helium conservation remain with the Department of the Interior. While we agree that energy technologies are presently seen as the potential large users of helium, helium's unique attributes could require it in unrelated fields such as laser or new cryogenic technologies. By assigning helium conservation responsibilities to the Department of Energy the new program could become tied to energy needs much like the present one is tied to Federal needs.

We agree that the Department of Energy should assume increased helium conservation responsibilities including the determination of energy-related helium demand and the assumption of funding responsibility for helium conserved for energy needs. Our earlier work indicated, however, that the Bureau of Mines has done a good job of physically managing the Government's helium activities and that the Department of the Interior is the appropriate agency to oversee management of a natural resource that has the potential for use in a variety of areas.

GAO supports a number of the specific steps the bill would take or allow, including:

- (1) The write-off of the helium debt which would clear the way for future efforts to conserve Tip Top helium.
- (2) Permitting Federal agencies to purchase helium in the private market to provide an incentive to private producers.
- (3) The setting of specific criteria defining future sales from the helium stockpile.

All of these steps are recommended in our 1979 report.

However, we do have the following concerns about the bill:

- (1) The cost and limited effectiveness of a new purchase program that would not give an incentive to new helium extraction capacity.
- (2) The lack of a specific reference in the bill to conserve Tip Top Gasfield helium in order to prevent the loss of valuable resources and to meet helium reserve goals.

In our past reports and testimony, we endorsed the need for a new helium policy that would increase conservation through incremental steps--the most important of these being the conservation of Tip Top and the encouragement of private sector storage. We also discussed the need for ongoing analysis of helium demand-supply projections which may lead to the justification for a new helium purchase program.

The helium reserve purchase program that would be established by H.R. 3877 is principally directed towards the original Government helium suppliers, who vented helium after the Government contracts were cancelled. While we support efforts to encourage the private conservation of this helium, a purchase program from existing facilities would probably only provide about 10 million cubic feet of helium, and therefore probably not justify the purchase and administrative expense involved. Further, the \$1.00 per thousand cubic feet price authorized in the bill to purchase helium for the reserve would not provide any incentive for new helium extraction capacity. A much higher fee would have to be paid to encourage conservation from new extraction capacity.

Therefore we question the desirability of enacting a purchase program until an analysis is completed of just how much helium could be conserved at what cost. Rather we would suggest the legislation focus on ways to encourage the private sector to recover and conserve helium. Allowing Federal agencies to purchase from the private sector, which the new bill allows, is one such measure. Measures to eliminate tax disincentives presently working against private storage should also be a part of a new helium conservation bill.

Further, we believe that the most feasible conservation step--storage from the Tip Top Gasfield--should be specifically provided for in H.R. 3877. We believe that the bill should require the Secretary of the Interior to take the necessary steps to conserve helium from Tip Top in the most timely and efficient manner, including the preparation of a comprehensive conservation plan and

related budget requests for the Congress to consider. The conservation of the over 45 (and perhaps many more) billion cubic feet of helium that may be in Tip Top, plus the over 40 billion cubic feet already in Government storage, would ensure that the bill's long-range helium reserve goal of 85 billion cubic feet would be met as Tip Top is produced.

A Bureau of Mines decision on how to deal with the helium conservation aspects of opening this field to production awaits the outcome of technical and legal studies, and more definitive production plans on what may be a very large gas reserve. Nevertheless, the giant size of the field places a special burden on the Bureau and the Department of the Interior to assure that its helium is not wastefully depleted.

The Department in the past has taken the position that Tip Top's potential for helium conservation is being adequately accounted for under the existing program. However, we continue to doubt the Department's ability to fund and support a long-range storage program for Tip Top helium under the existing program, because of its financial problems and because it has taken the position that its responsibility is limited to Federal agency needs. We believe that a national policy and elimination of the current program's financial problems are needed to ensure the feasibility of a long-term Tip Top conservation effort.

In closing, we commend the Subcommittee's efforts to move toward an effective conservation program for this very unique non-renewable resource. As summarized in the initial portion of this statement, GAO's main concern flowing from its work is that any

new helium legislation should clearly

- establish a Federal responsibility to meet future national helium needs,
- act to ensure the conservation of Tip Top helium,
- act on a number of measures which could immediately encourage private conservation, and
- direct the continuing analysis necessary to insure that the most efficient additional conservation steps be taken as they are warranted.

That concludes my formal statement. Mr. Chairman, I shall be pleased to answer any questions the Subcommittee may have.